

6.2 Use properties to solve Geometry Problems

Additional properties of proportions

$$\frac{a}{b} = \frac{c}{d}$$

$$\frac{a}{c} = \frac{b}{d}$$

$$\frac{a+b}{b} = \frac{c+d}{d}$$

$$\frac{a}{b} + \frac{b}{b} = \frac{c}{d} + \frac{d}{d}$$

Scale--ratio describing dimensions

ex:

A room has a length of 40ft and a width of 9 ft.

A scale model has a length of 16 units.

What is the width of the scale model?

$$\frac{40}{9} = \frac{16}{w}$$

$$3.6 = w$$

units

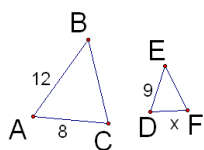
ex:

solve for x.

$$\frac{AB}{DE} = \frac{AC}{DF}$$

$$\frac{12}{3} = \frac{8}{x}$$

$$x = 6$$



While baking muffins, Kathy noticed that the recipe for 48 muffins required 900g of flour.

She then discovered that she only has 675g of flour. How many muffins can she bake?

$$\frac{48 \text{ muffins}}{900 \text{ g}} = \frac{x \text{ muffins}}{675 \text{ g}}$$

$$x = 36 \text{ muffins}$$

A map scale states that every 2 in is 76mi. If the distance, on the map, between two cities is 5in, what is the actual distance between the two cities?

$$X = 190 \text{ mi}$$

$$\frac{2}{76} = \frac{5}{X}$$

A flagpole casts a shadow 22ft long. If a man 6ft tall casts a shadow of 4ft, how tall is the flagpole.

$$\frac{X}{22} = \frac{6}{4}$$

shadow shadow

$$X = 33 \text{ ft}$$